

REMARKS

In the Office Action mailed from the United States Patent and Trademark Office on September 6, 2005, the Examiner rejected claims 1-23.

Interview

The Applicant has attempted to amend the claims and present arguments in a manner consistent with the suggestions and opinions expressed by the Examiner during the telephonic interview conducted on October 27, 2005.

Objections under 35 U.S.C. § 112

In the Office Action, the Examiner objected to claim 17 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 17 has been amended in accordance with Examiner's request.

Rejections under 35 U.S.C. § 102

In the Office Action, the Examiner rejected claims 1-4, 6-8, 15, and 23 under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 4,305,006 to Walthall et al (hereinafter Walthall). Applicants respectfully traverse. The standard for a Section 102 rejection is set forth in M.P.E.P 706.02, which provides:

“... for anticipation under 35 U.S.C. 102, the reference must teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present.”

Applicants have amended the claims to more clearly distinguish from Walthall. Applicants do not believe that Walthall teaches each of the limitations included in the current claims. The claim amendments are directed at 1) the movements required to operate the switch and 2) the electronic/switching response of the switch when a particular movement is detected. Support for #1 (movement) amendments can be found throughout the specification including the following sentence:

Such a hands-free electrical switch may be used by sweeping a finger or hand of a user or an object substantially linearly (*e.g.*, upwardly or downwardly) over the hands-free electrical switch, in close proximity thereto, **much like the action required to change the position of a conventional wall-mounted electrical switch** (*e.g.*, a conventional light switch). **Paragraph [0013]**

Likewise, support for #2 (electrical response) amendments can be found throughout the specification including the following sentence:

The inventors are unaware of any hands-free switches that **operate in a manner** that is capable of distinguishing between motion which is intended to turn them on or off and arbitrary motion, and of hands-free light switches which require that the operation of conventional, wall-mounted electrical switches be **mimicked**. **Paragraph [0008]**

In addition, some of the claims have been amended to include the word “toggle” in the preamble to further distinguish the nature of the present invention from the cited references. A discussion of Endruschat is included for reference.

Claim 1 has been amended to include, “a motion detection element configured to detect **two independent movements** which **mimic the movements** required to physically switch a **conventional toggle switch**, wherein the mimicking includes the movement characteristics of **duration, direction, and distance**”. This amended language is directed at constraining the movements which cause the switch to operate. Both Walthall and Endruschat teach touchless switches which respond to various movements which may include mimicked movements.

However, neither Walthall nor Endruschat teach a touchless switch which **selectively detects** the mimicked movements of the type described in the claim (including mimicking the movement characteristics of duration, direction, and distance). By not selectively detecting these types of movements, the devices taught by Walthall and Endruschat will respond to other movements. As cited by the Examiner, Walthall teaches a touchless switch which can identify “linear” movements in the embodiments described in reference to Figures 8 and 11 (Columns 9-12). However, these linear movements are not constrained to movements which mimic how a conventional toggle switch would be switched (duration, direction, and distance). Walthall is also not a “toggle” switch but rather a complex electrical switch designed to handle multiple loads and additional functions. In addition, Walthall does not teach a system that is capable of recognizing the **duration** of movements and therefore cannot selectively detect movements which include a duration characteristic associated with how a conventional toggle switch is operated. Therefore, Walthall fails to teach the claimed invention. Likewise, Endruschat teaches a touchless toggle switch which recognizes the duration of movements but does not recognize the **direction** of movements. Endruschat teaches the use of a single emitter and a single detector (Column 7, Line 54) which is inherently not capable of recognizing the direction of movements and therefore cannot selectively detect movements which include a direction characteristic associated with how a convention toggle switch is operated. Therefore, Endruschat also fails to teach the claimed invention. Independent claims 10 and 15 have also been amended to include similar limitations and are therefore distinguishable for at least the same reasons.

Likewise, the present invention is further distinguishable in how the switch electrically responds to detected movements. Claim 1 has been amended to include, “if the motion detection element detects one of the two movements, causing the **electronicswitchingelementtoswitch**

between a first and second electrical state in a **manner which corresponds to how a conventional toggle switch would operate in response to the detected movement.**" This amended language is directed at constraining the electrical response of the switch. Neither Walthall nor Endruschat teach a switch which is configured to respond in a manner which corresponds to the type of movement initiating the response. For Example, Walthall teaches "if bulb 51 is off one **can turn it on** without affecting the dimming circuitry to the right of line 91, by **moving one's hand downward** in front of D1, Q2, D1'". If a conventional toggle switch were off, it would remain off if a downward force was imposed on it. Therefore, Walthall does not teach a switch which switches in a manner which "corresponds to how a conventional toggle switch would operate in response to the mimicked movement". Likewise, Endruschat inherently cannot correspond the electrical response to the detected movement because it cannot distinguish between an upward movement and a downward movement. Therefore, neither Endruschat nor Walthall teaches the claimed limitation. Independent claims 10 and 15 have also been amended to include similar limitations and are therefore distinguishable for at least the same reasons.

For at least these reasons, Applicants respectfully request that the Examiner withdraw the rejections of claims 1-4, 6-8, 15, and 23 under 35 U.S.C. 102(b).

Rejections under 35 U.S.C. § 103

It is anticipated that the Examiner may suggest that the combination of Walthall and Endruschat teach the claimed inventions. Applicants disagree with this potential reasoning. The proposed combination fails to establish a prima facie case for obviousness in that it would still fail to teach the claimed limitations. The combination would not be capable of detecting movements and responding in the specific manner claimed in the present invention. In addition,

both Walthall and Endruschat are directed away from mimicing a physical toggle switch. Walthall teaches a complex multi-variable touchless switching system that is capable of operating multiple loads. Likewise, Endruschat teaches a motion sensor switch which is not falsely triggered by prolonged presence or rapid movements. Likewise, the proposed combination would not produce a reasonable expectation of success but would rather require undue experimentation.

The following claim discussions are provided in a format which corresponds to the rejections set forth in the Examiner's office action.

A. claims 5, 21, 22

In the Office Action, the Examiner rejected claims 5, 21, and 22 under 35 U.S.C. 103(a) as being unpatentable over Walthall. Applicants respectfully traverse.

Claims 5, 21, and 22 are dependent from independent claims and are therefore allowable for at least the same reasons stated above.

B. claim 9

In the Office Action, the Examiner rejected claims 9 under 35 U.S.C. 103(a) as being unpatentable over Walthall in view of Lang. Applicants respectfully traverse.

Claim 9 is dependent from claim 1 and is therefore allowable for at least the same reasons stated above.

C. claims 10-13, 15-19

In the Office Action, the Examiner rejected claims 10-13 and 15-19 under 35 U.S.C. 103(a) as being unpatentable over Walthall in view of Endruchat. Applicants respectfully traverse.

Independent claims 10 and 15 have been amended to further distinguish from the cited references. In particular, the movement required to operate the switch has been further defined. In addition, the switching state of the electrical switch is switched in a manner that corresponds to how a conventional toggle switch would respond to the detected movement. Neither of these limitations are taught or disclosed in Walthall or Endruchat. Since claims 11-13 and 16-19 are dependent from claims 10 and 15 respectively, they are allowable for at least the same reasons stated above.

D. claims 14 and 20

In the Office Action, the Examiner rejected claims 14 and 20 under 35 U.S.C. 103(a) as being unpatentable over Walthall in view of Endruschat and further in view of Lang. Applicants respectfully traverse.

Claims 14 and 22 are dependent from independent claims and are therefore allowable for at least the same reasons stated above.

CONCLUSION

Applicants submit that the amendments made herein do not add new matter and that the claims are now in condition for allowance. Accordingly, Applicants request favorable reconsideration. If the Examiner has any questions or concerns regarding this communication, the Examiner is invited to call or email the undersigned.

DATED this 6th day of December, 2005.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Trent H. Baker', with a stylized, flowing script.

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